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JUDGE CEDARBAUM

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

08 CV 01065

CHRISHA CREATIONS, LTD. Plaintiff, - against - DOLGENCORP, INC., DOLLAR GENERAL CORPORATION, and FAMILY DOLLAR STORES, INC. Defendants	Civil Action No. **COMPLAINT**

Plaintiff, CHRISHA CREATIONS, LTD. ("Chrisha"), by and through its attorneys, Rivkin Radler LLP, hereby states its claims for relief against Defendants, DOLGENCORP, INC., DOLLAR GENERAL CORPORATION, and FAMILY DOLLAR STORES, INC., and alleges as follows:

PARTIES

1. Chrisha is a corporation formed under the laws of the State of New York with its principal place of business in Greenville, Rhode Island.

2. Upon information and belief, Dolgencorp, Inc. ("Dolgencorp") is a corporation formed under the laws of the State of Delaware with its principal place of business in Scottsville, Kentucky.

3. Upon information and belief, Dollar General Corporation ("Dollar General") is a corporation formed under the laws of the State of Tennessee with its principal place of business in Goodlettsville, Tennessee.

4. Upon information and belief, Family Dollar Stores, Inc. ("Family Dollar") is a corporation formed under the laws of the State of Delaware with its principal place of business in Matthews, North Carolina.

JURISDICTION AND VENUE

5. This is an action for infringement of United States patents arising under 35 U.S.C. §§ 271, 281, and 284-285, among others.

6. This Court has subject matter jurisdiction of the action under 28 U.S.C. §1331 and §1338(a).

7. Upon information and belief, Defendants have minimum contacts with the Southern District of New York such that this venue is fair and reasonable. Defendants have committed such purposeful acts and/or transactions in New York that they reasonably should know and expect that they could be hailed into this Court as a consequence of such activity. Upon information and belief, Defendants have transacted and, at the time of the filing of this Complaint, are transacting business within the Southern District of New York. For these reasons, personal jurisdiction exists and venue is proper in this Court under 28 U.S.C. §§ 1391(b) and (c) and 28 U.S.C. § 1400(b)

FIRST CLAIM FOR RELIEF
(Patent Infringement)

8. Chrisha creates, markets, sells and distributes air-inflatable decorative figures.

9. Chrisha invented an air-inflatable decorative figure in which parts of the figure move and inflate at different times ("the pop up inflatables").

10. On May 15, 2007, the United States Patent and Trademark Office issued to Chrisha U.S. Patent No. 7,216,446 for "Dynamic Multiple Compartment Air Inflatable Display" ("the '446 Patent"). A copy of the '446 Patent is annexed hereto as Exhibit A.

11. Chrisha is the owner of the '446 patent with the exclusive right to enforce the '446 patent against infringers and collect damages for all relevant times, including the right to prosecute this action.

12. Defendants also market, sell and distribute air-inflatable decorative figures.

13. Upon information and belief, Defendants manufacture, make, have made, use, practice, import, provide, supply, distribute, sell, and/or offer for sale products and/or systems that infringe one or more claims in the '446 patent, and/or induce and/or contribute to the infringement of one or more of the claims in the '446 patent by others. Defendants' acts of infringement generally involve their manufacture, use, sale of, and offers to sell an air inflatable product in which parts of the figure move and inflate at different times which embody, incorporate or otherwise practice the claimed invention of the '446 Patent.

14. As a direct and proximate result of Defendants' infringement of the '446 patent, Plaintiff has been damaged and continues to be damaged in its business and property, including but not limited to the loss of revenues.

15. As of at least by July of 2007, Dolgencorp and Dollar General have been on notice of the '446 patent and its claims.

16. Since at least the time of the notice and thereafter, upon information and belief, Dolgencorp and Dollar General knowingly and willfully infringed the '446 Patent.

17. By reason thereof, Defendants are liable to Plaintiff in an amount that adequately compensates it for Defendants' infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. §284.

18. Plaintiff has been and continues to be irreparably harmed by Defendants' infringement of the '446 Patent. Defendants' infringing activities will continue unless enjoined by this Court.

SECOND CLAIM FOR RELIEF
(Patent Infringement)

19. Chrisha also invented an interchangeable fan for air inflatable decorative figures.

20. On December 4, 2007, the United States Patent and Trademark Office issued to Chrisha U.S. Patent No. 7,302,769 for "Interchangeable Fan Assembly For Cold-Air Inflatable Displays" ("the '769 Patent"). A copy of the '769 Patent is annexed hereto as Exhibit B.

21. Chrisha is the owner of the '769 Patent with the exclusive right to enforce the '769 Patent against infringers and collect damages for all relevant times, including the right to prosecute this action.

22. Defendants market, sell and distribute air-inflatable decorative figures.

23. Upon information and belief, Defendants manufacture, make, have made, use, practice, import, provide, supply, distribute, sell and/or offer for sale products and/or systems that infringe one or more claims in the '769 Patent , and/or induce and/or contribute to the infringement of one or more of the claims in the '769 Patent by others. Defendants' acts of infringement generally involve their manufacture, use, sale of, and offers to sell an air-inflatable product that uses an interchangeable fan which embodies, incorporates or otherwise practices the claimed invention of the '769 Patent.

24. As a direct and proximate result of Defendants' infringement of the '769 Patent, Plaintiff has been damaged and continues to be damaged in its business and property including but not limited to the loss of revenues.

25. By reason thereof, Defendants are liable to Plaintiff in an amount that adequately compensates it for Defendants' infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

26. Plaintiff has been and continues to be irreparably harmed by Defendants' infringement of the '769 Patent. Defendants' infringing activities will continue unless enjoined by this Court.

WHEREFORE, Chrisha requests that this Court enter judgment against Dolgencorp, Inc., Dollar General, and Family Dollar as follows:

A. That this Court find the '446 and the '769 Patents are valid and enforceable;

B. That this Court find that one or more claims of United States Patent No. 7,216,446 and United States Patent No. 7,302,769 have been infringed, either literally and/or under the doctrine of equivalents, by the Defendants and/or by others to whose infringement Defendants have contributed and/or by others whose infringement has been induced by Defendants;

C. That this Court preliminarily and permanently enjoin and restrain Defendants, their officers, subsidiaries, agents, servants, employees, attorneys, and parent, subsidiary and affiliate corporations or other business entities, and all other persons acting in concert with them, and their successors and assigns, from further infringement of the '446 Patent and the '769 Patent;

D. That this Court order an accounting be had for the damages to Plaintiff arising out of Defendants' infringing activities together with interest and costs, and that such damages be awarded to Plaintiff;

E. That this Court find that Defendants Dollar General and Dolgencorp have willfully infringed the '446;

F. That this Court award to Plaintiff treble damages for defendants' willful infringement of the patent rights;

G. That this Court declare this an exceptional case and award Plaintiff its reasonable attorneys fees and costs in accordance with 35 U.S.C. §285; and

H. That this Court award plaintiffs such other and further relief as the Court may deem just and proper.

Uniondale, New York
January 31, 2008

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EXHIBIT A

The United States of America

The Director of the United States Patent and Trademark Office

Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.

If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.

If this application was filed on or after June 8, 1995, the term of this patent is twenty years from the U.S. filing date, subject to any statutory extension. If the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121 or 365(c), the term of the patent is twenty years from the date on which the earliest application was filed, subject to any statutory extensions.

Jon W. Dudas

Director of the United States Patent and Trademark Office

(12) **United States Patent**
Machala

(10) **Patent No.: US 7,216,446 B2**
(45) **Date of Patent: May 15, 2007**

(54) **DYNAMIC MULTIPLE COMPARTMENT AIR INFLATABLE DISPLAY**

(75) Inventor: **William Machala**, Smithfield, RI (US)

(73) Assignee: **Chrisha Creations, Ltd.**, Greenville, RI (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **11/127,489**

(22) Filed: **May 11, 2005**

(65) **Prior Publication Data**

US 2006/0107573 A1 May 25, 2006

Related U.S. Application Data

(60) Provisional application No. 60/630,535, filed on Nov. 23, 2004.

(51) **Int. Cl.**
G09F 15/00 (2006.01)

(52) **U.S. Cl.** 40/610; 446/221

(58) **Field of Classification Search** ..... None
See application file for complete search history.

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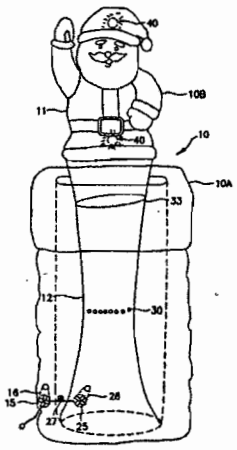
Primary Examiner—Joanne Silbermann
(74) *Attorney, Agent, or Firm*—Morgan & Finnegan

(57) **ABSTRACT**

The invention is directed to an inflatable display that has a plurality of inflatable compartments. A first inflatable compartment is continuously inflated by a first fan element and at least a second inflatable compartment is periodically inflated by a second fan element. The inflatable display may be produced from permeable material and configured to represent a predetermined shape or design when inflated, such as a witch and caldron, Santa Claus and a chimney, or the Easter Bunny and an Easter egg. Further, the inflatable display may include a string of lights enclosed within a plastic shell to avoid damaging the inflatable display material by heat or fire. Also, the period associated with the operational inflation/deflation may be controlled by a variable controller connected to the second fan element.

34 Claims, 6 Drawing Sheets



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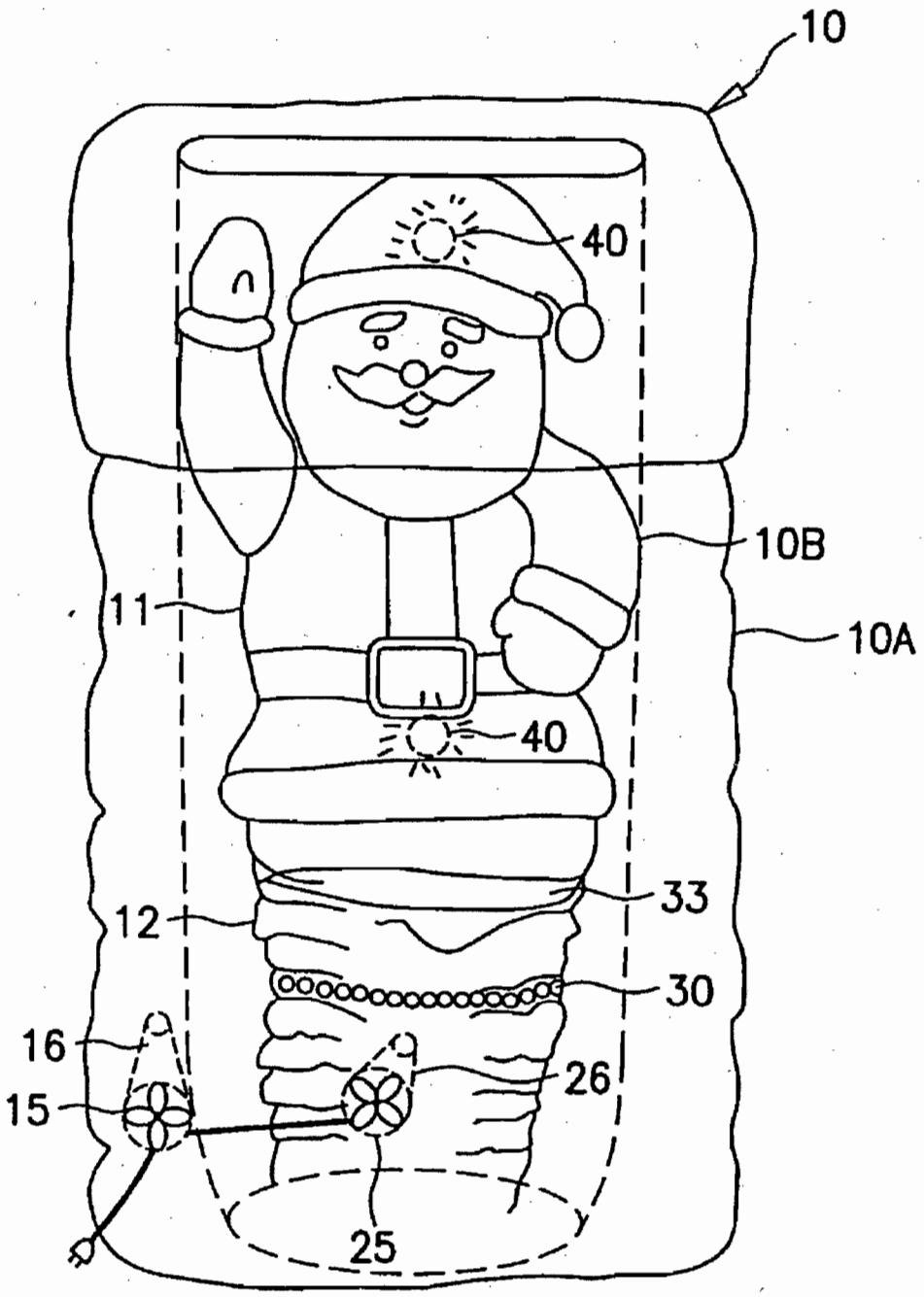

Fig. 1A

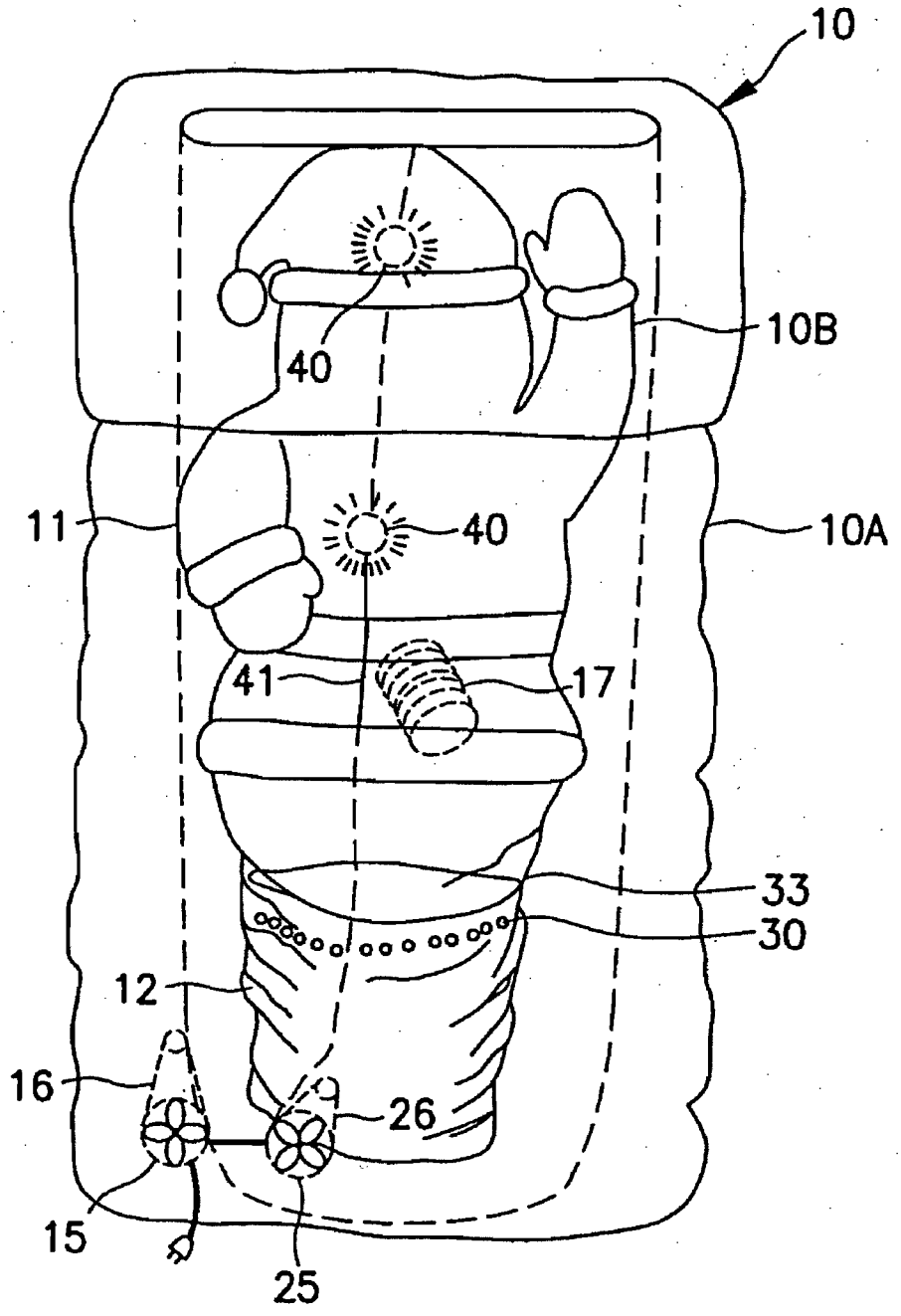

Fig. 1B

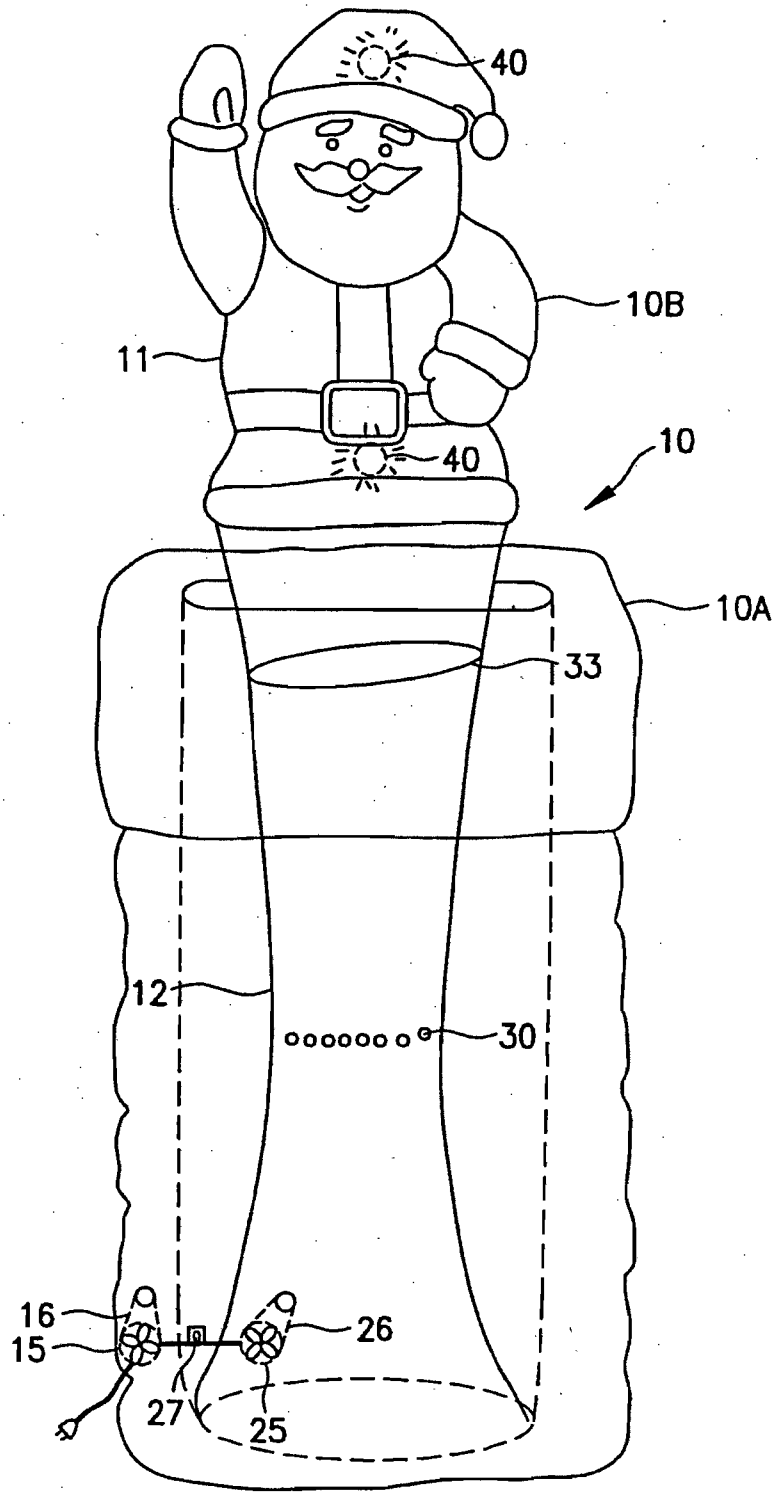

Fig. 2A

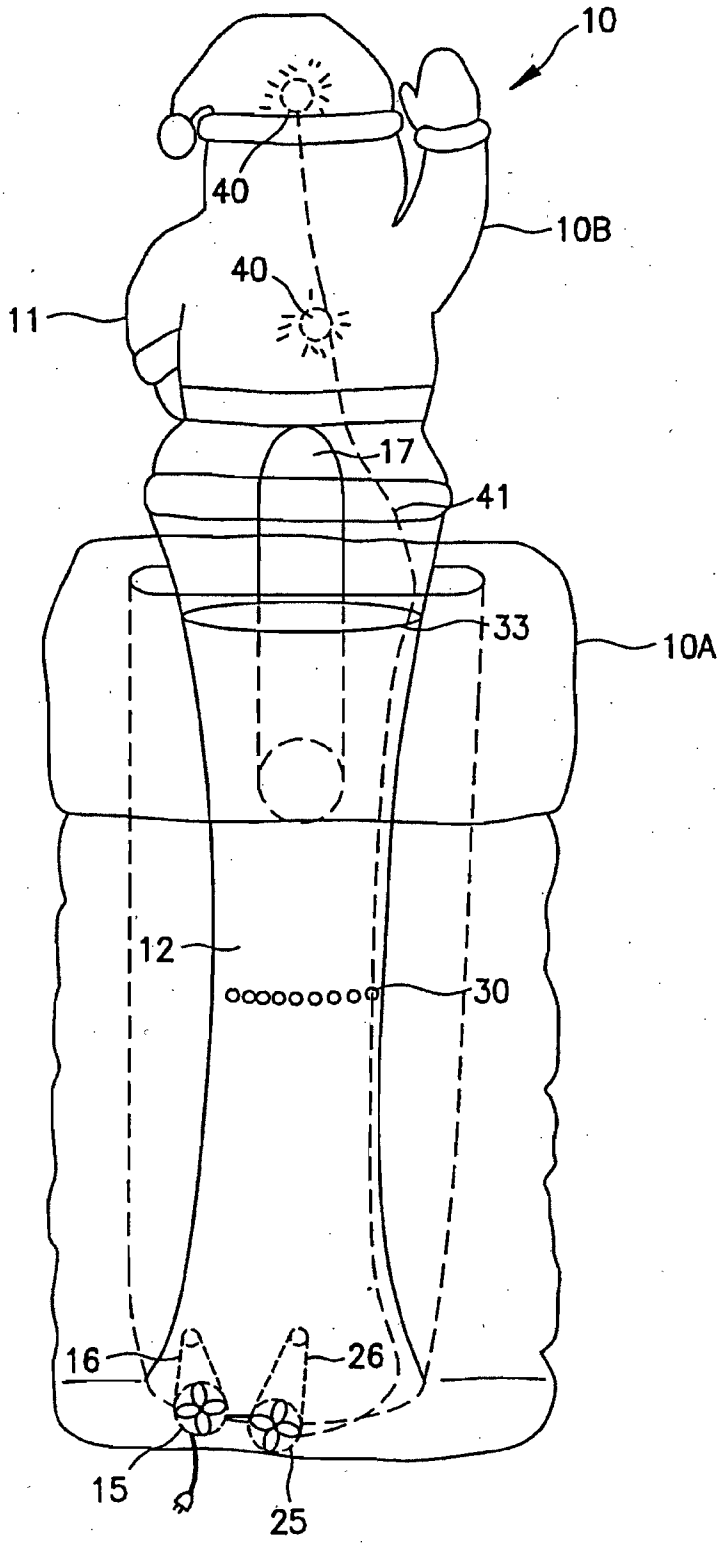

Fig. 2B

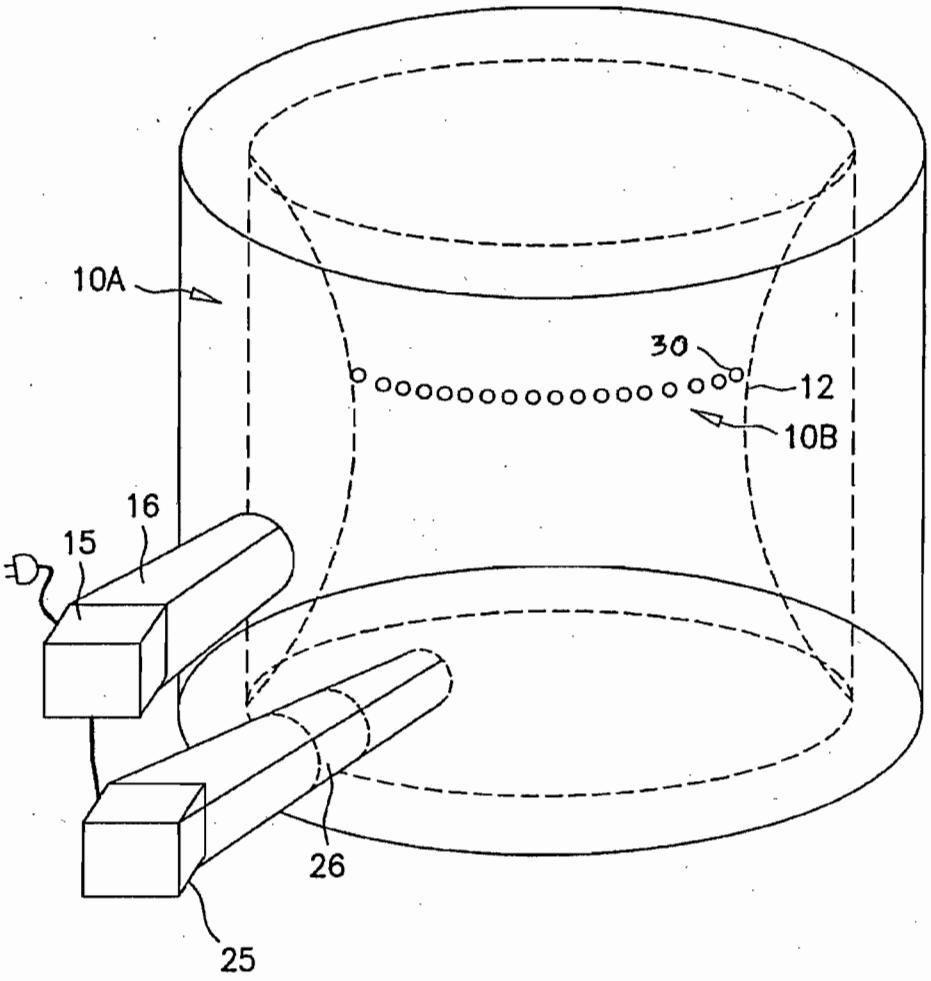

Fig. 3

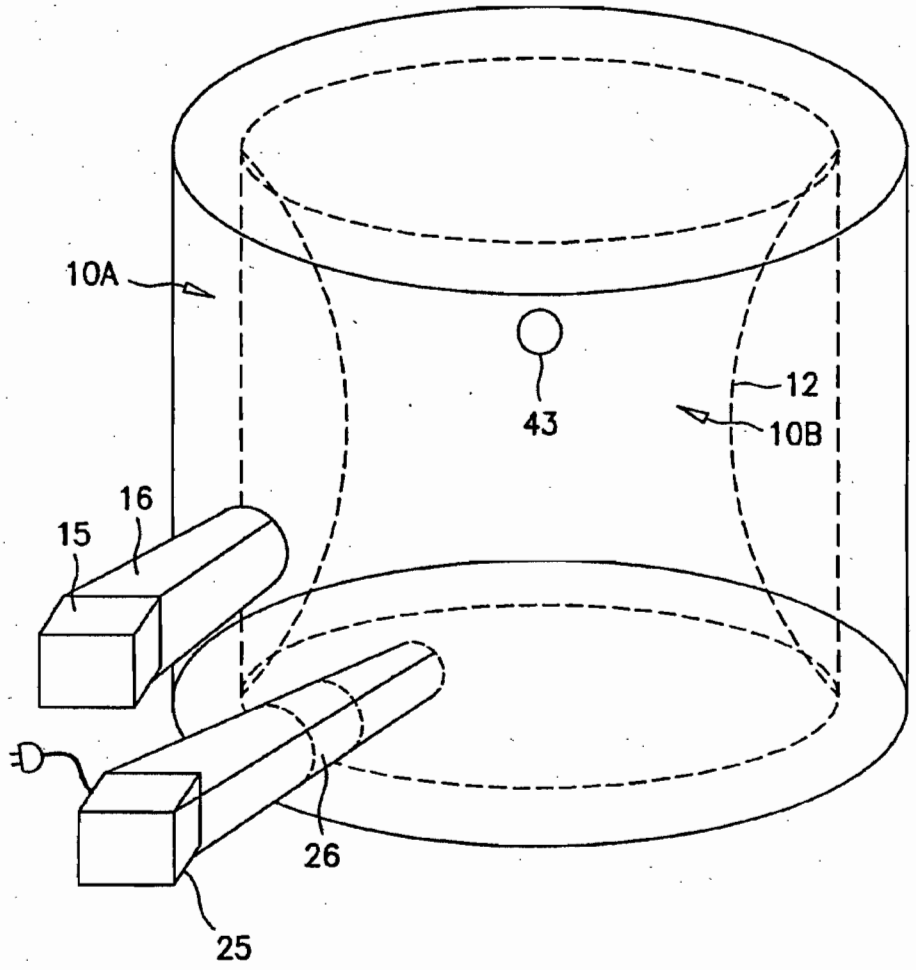

Fig. 4

DYNAMIC MULTIPLE COMPARTMENT AIR INFLATABLE DISPLAY

CROSS-REFERENCE TO RELATED APPLICATION

This application claims priority from provisional U.S. Patent Application Ser. No. 60/630,535 entitled MULTI-COMPONENT AIR INFLATABLE DISPLAY filed in the name of William Machala on Nov. 23, 2004, the entirety of which is incorporated by reference herein.

FIELD OF THE INVENTION

The apparatus and method of the present invention relate to inflatable air displays with multiple inflatable compartments that maintain their inflated state through the use of a system of automatic fans or other inflation devices.

BACKGROUND OF THE INVENTION

Inflatable displays have become increasingly popular in recent years. These types of displays have a wide range of application, shape and size, including, but not limited to, figures for holiday and seasonal decoration, marketing, advertising, entertainment, and event attraction. The inflatable displays are made from a permeable fabric that allows air to pass through the fabric at approximately the same rate as the air being blown into the inflatable display. The process of continuously blowing air being supplied from a fan or other inflation device occurring at substantially the same rate as air escaping the fabric allows the display to maintain a three-dimensional shape without the use of an internal or external frame or structure. These are known in the industry as "cold-air" inflatable displays.

Typically, the cold-air inflatable display is a single figure comprised of pieces of permeable fabric configured to create an individual figure when inflated. For example, a consumer may decide to decorate their house with a jack-o-lantern inflatable display for the Halloween season, a snowman inflatable display for the holiday season, or an Uncle Sam inflatable display for Independence Day. As such, typically, the single figure is inflated and part of a static display. There is no present apparatus or method utilizing a fan assembly or other inflation assembly to inflate a single assembly having multiple inflation dynamic compartments.

SUMMARY OF THE INVENTION

In the present invention, an inflatable display is configured with multiple inflation compartments. A first compartment is inflated by a first fan element. The first compartment is operatively connected with a second inflatable compartment. For example, the second inflatable compartment may be situated within the first compartment. A second fan element is associated and configured to inflate the second compartment. A further aspect of the invention involves periodically turning the second fan on and off. According to an embodiment of the invention, there are a series of holes or slits formed in the surface of the second compartment, which enable a repeated inflation and deflation of the second compartment, while maintaining a fully inflated first compartment—thereby animating the inflatable display.

In another embodiment of the invention, the second compartment may be configured with a series of weights to assist in deflation when the second fan is deactivated. Accordingly, the air in the second compartment will escape

and the second compartment will deflate. The multiple compartment, animated display assembly enables a greater range of display options, as well as achieves a greater overall visual effect to an observer.

It will be appreciated by those skilled in the art that the foregoing brief description and the following detailed description are exemplary and explanatory of this invention, but are not intended to be restrictive thereof or limiting of the advantages which can be achieved by this invention. Thus, the accompanying drawings, referred to herein and constituting a part hereof, illustrate preferred embodiments of this invention, and, together with the detailed description, serve to explain the principles of this invention.

BRIEF DESCRIPTION OF THE DRAWINGS

The features and advantages of the present invention, both as to its structure and operation, will be apparent from the following detailed description, especially when taken in conjunction with the accompanying drawings, wherein:

FIG. **1A** is a front perspective view of a multiple compartment inflatable display illustrated with a second compartment in a deflated state according to an embodiment of the present invention;

FIG. **1B** is a rear perspective view of a multiple compartment inflatable display illustrated with a second compartment in a deflated state according to an embodiment of the present invention;

FIG. **2A** is a front perspective view of a multiple compartment inflatable display illustrated with a second compartment in an inflated state according to an embodiment of the present invention;

FIG. **2B** is a rear perspective view of a multiple compartment inflatable display illustrated with a second compartment in an inflated state according to an embodiment of the present invention;

FIG. **3** illustrates a perspective cross-sectional view of an embodiment of the invention; and

FIG. **4** illustrates a perspective cross-sectional view of another embodiment of the invention.

DETAILED DESCRIPTION OF THE INVENTION

The apparatus and method of the present invention will now be discussed with reference to FIGS. **1A**, **1B**, **2A**, **2B**, **3** and **4**. The invention is directed to an inflatable display unit **10**. The material of inflatable display **10** is preferably made from a permeable fabric that allows air to escape at approximately the same rate as air being blown into the inflatable display by fan elements **15** and **25**. Inflatable display **10**, shown in this embodiment as a chimney and Santa Claus, may be configured in any character, shape or size, depending on the specific need and purpose of the display. Inflatable display **10** is held in position by a securing mechanism, such as, a ballast or a tether that fastens to either the ground or another structure and is secured to said inflatable display by securing devices, such as a securing ring attached to inflatable display **10**.

The inflatable display may include interior lighting arrangement **41** (shown in FIGS. **1B** and **2B**) that includes one or more light bulbs **40** secured to a power cord. Protective covers are secured around each light bulb **40** to protect the permeable fabric of inflatable display **10** from heat produced from each bulb. Interior lighting arrangement **41** is attached to fan assembly (**15** and **25**) through an electrical connector on the bottom end of a power cord that

mates with fan assembly (15 and 25). Advantageously, if an operator does not want to illuminate the display, he/she may simply detach the electrical connector from the fan assembly element to remove power from interior lighting arrangement 41, without necessarily removing lights from within the display.

As illustrated, fan elements 15 and 25 are preferably implemented as a lightweight plastic sleeveless bearing fan. The lightweight of the electric fan assembly and the plastic housing enables the fan assembly to be secured to the fabric of the inflatable display at a position elevated above the surface-touching bottom of the display without distorting the shape of the inflatable display and without the need for a base to support and elevate the fan above the ground to achieve sufficient air intake. Advantageously, fan elements 15 and 25 can be easily removed from their respective housings for cleaning or replacement whenever necessary. Fan elements 15 and 25 are covered with safety grill to guard against unwanted debris from entering the display as well as contacting fan blades.

Furthermore, as illustrated in FIGS. 1A, 1B, 2A and 2B, inflatable display 10 is comprised of two inflatable compartments 10A and 10B. By way of example only, inflatable display 10 in FIGS. 1A–2B is shown as a chimney (first) inflatable compartment 10A formed with a Santa Claus (second) inflatable compartment 10B. It is to be understood that the invention is not limited to such an embodiment. For example, other embodiments may comprise any number, shape or size compartments and associated fan elements or any characteristic components corresponding to any holiday or seasonal display, such as a rabbit and an Easter egg, a witch and a caldron, or many others.

As illustrated in FIGS. 1A–2B, the first compartment 10A is inflated by fan element 15 that is attached to compartment 10A via an air intake tube 16. Air tube 16 may be made of the same material as inflatable display 10, itself, and integrally formed as part of inflatable device 10. Further, air intake tube 16 may include fasteners on one end so that it is joined with fan element 15. This allows the inflatable elements to be interchangeable, simply by attaching a different inflatable display 10 to fan assembly (15 and 25).

Fan element 15 is responsible for maintaining first inflation compartment 10A in an inflated state. Further, second air intake tube 17 is used to connect first inflation compartment 10A with portion 11 of second inflation compartment 10B. For example, in the embodiment shown in FIGS. 1A and 1B, portion 11 is implemented as the body of Santa Claus. The second intake tube 17 allows inflatable display 10 to maintain portion 11 in an inflated state so long as fan element 15 is turned on. It is to be understood that depending on the actual implementation, the fan element may be configured in a manner such that it is raised above the ground, whether it is elevated by a stand or platform or by being fastened to a portion of the inflatable display.

Second air intake tube 26 is fastened to second fan element 25, in order to achieve an animating effect for inflatable display 10. More specifically, second inflatable compartment 10B is divided into two portions, static portion 11 (the Santa Claus body 11) and dynamic inflation portion (extension portion 12), separated by partition 33. FIGS. 1A and 1B illustrate inflatable display 10 in a first state, wherein second inflatable compartment 10B is hidden within first inflatable compartment 10A (and extension portion 12 is un-inflated). In contrast, FIGS. 2A and 2B illustrate second inflatable compartment 10B extending through an aperture in first inflatable compartment 10A (extension portion 12 is inflated).

Second inflatable compartment 10B is divided into statically inflated portion 11 and dynamically inflated portion 12 (discussed above as the extension portion). Dynamically inflated portion 12 is connected with air intake tube 26 and consequently to fan element 25. In order to actuate second inflatable compartment 10B, power is periodically supplied to fan element 25. Upon supplying power to fan element 25, air is blown into dynamically inflatable portion 12, which expands as it receives the air.

As shown in FIGS. 2A and 2B, when air is introduced into dynamically inflatable portion 12, static inflatable portion 11 rises into view and is no longer hidden. Dynamically inflatable portion 12 is secured to the base of first inflatable compartment 10B and is made from enough material, so that when in the inflated state, static inflatable portion 11 passes through the aperture in the first inflatable compartment and is held in full view of an observer. If power is removed from fan element 25, air escapes from dynamic inflatable portion 12 through exhaust ports 30. It is to be understood that the precise number, size, configuration of and form of exhaust ports 30 may vary based on the needs and design of the embodiment. For example, the exhaust ports may be formed as holes formed in a lateral ring (as illustrated in the figures) in dynamic inflatable portion 12. However, in other embodiments they may be formed as slits running lengthwise along an edge of the dynamic portion or they may take any other form that facilitates the effect of allowing the air in the dynamic portion to escape.

It is to be understood that during the periods of time when dynamic inflation portion 12 is fully inflated, fan element 25 is operated at a speed to overcome the effect of ports allowing air to escape. Also, depending on the application, it is to be understood that the frequency associated with supplying power to and removing power from fan element 25 may be either predetermined by manufacturer or controlled by variable control switch 27 attached to fan element (15, 25) assembly, as shown in FIG. 2A. Moreover, as illustrated in FIGS. 1B and 2B, inflatable display 10 may include a string 41 of lights 40 that are disposed at intervals within first or second inflatable compartments (10A/10B).

FIG. 3 illustrates a perspective cross-sectional view of an embodiment of the invention. More specifically, FIG. 3 illustrates a perspective view of FIGS. 2A and 2B, wherein the dynamic inflation portion is fully inflated. As discussed above, the invention implements a multiple fan assembly (15 and 25). The first fan element 15 is connected with air intake tube 16 to first inflation compartment 10A.

Generally, during operation, fan element 15 is always on and maintains the first inflation compartment 10A in an inflated state. In contrast, fan element 25 is switched between a powered state and an unpowered state. Consequently, fan element 25 supplies air through air intake 26 to dynamic inflation portion 12 of second inflation compartment 1GB. This achieves the effect of second inflation compartment 10B rising above first inflation compartment 10A. With respect to the embodiment discussed herein, Santa 10B rises from chimney 10A, while power is supplied to fan element 25, and falls back into chimney 10A when the power is removed from fan element 25, as the air in dynamic inflation portion 12 escapes through exhaust ports 30.

FIG. 4 illustrates an alternate embodiment of the invention wherein the dynamic inflation portion 12 is not configured with exhaust ports 30. Instead, dynamic portion 12 is configured with at least one ballast element 43. The weight provided by ballast element 43 assists in bringing the static inflation portion 11, back within the inflatable compartment. It is to be understood that the number of ballast elements, the

attachment points, and the weight of the ballast element may vary greatly among implementations.

Although illustrative preferred embodiments have been described herein in detail, it should be noted and will be appreciated by those skilled in the art that numerous variations may be made within the scope of this invention without departing from the principle of this invention and without sacrificing its chief advantages. The terms and expressions have been used as terms of description and not terms of limitation. There is no intention to use the terms or expressions to exclude any equivalents of features shown and described or portions thereof and this invention should be defined in accordance with the claims which follow.

The invention claimed is:

1. An inflatable display comprising:
   - a first inflatable compartment;
   - a second inflatable compartment including a statically inflated portion and a dynamically inflated portion;
   - a first fan element providing a continuous air flow to inflate the first inflatable compartment and the statically inflated portion of said second inflatable compartment; and
   - a second fan element providing a periodic air flow to inflate and deflate the dynamic inflated portion of said second inflatable compartment.

2. The inflatable display of claim 1, wherein the second inflatable compartment is configured with at least one ballast element.

3. The inflatable display of claim 2, wherein at least one illumination module is disposed within the first inflatable compartment.

4. The inflatable display of claim 3, wherein at least one illumination module is disposed within the second inflatable compartment.

5. The inflatable display of claim 4, wherein the illumination modules are operatively connected to one fan element.

6. The inflatable display of claim 5, wherein the fan elements are situated within the inflatable display.

7. The inflatable display of claim 6, wherein the second inflatable compartment includes an extension portion.

8. The inflatable display of claim 5, wherein the fan elements are secured to the inflatable display.

9. The inflatable display of claim 2, wherein the ballast element is attached to a dynamic inflatable portion of the second inflatable compartment to assist in deflating the portion.

10. The inflatable display of claim 9, wherein the second fan element is configured to operate for an initial predetermined length of time that is longer than a periodic operational airflow frequency.

11. The inflatable display of claim 1, wherein the second inflatable compartment is configured with at least one exhaust port.

12. The inflatable display of claim 1, further comprising at least one air intake tube associated with said first fan element and said first inflatable compartment.

13. The inflatable display of claim 12, further comprising at least one second air intake tube associated with said second fan element and said second inflatable compartment.

14. The inflatable display of claim 1, further comprising at least one air intake tube associated with said second fan element and said second inflatable compartment.

15. The inflatable display of claim 1, wherein the periodic air flow to inflate and deflate is controlled by a variable controller.

16. The inflatable display of claim 1, wherein the periodic air flow to inflate or deflate is predetermined.

17. An inflatable display comprising:
   - at least one first inflatable compartment continuously inflated by a first fan element; and
   - at least one second inflatable compartment including a statically inflated portion continuously inflated by said first fan element and a dynamically inflated portion periodically inflated and deflated by a second fan element.

18. The inflatable display of claim 17, wherein the second inflatable compartment is configured with at least one ballast element.

19. The inflatable display of claim 18, wherein the ballast element is attached to a dynamic inflatable portion of the second inflation compartment to assist in deflating the portion.

20. The inflatable display of claim 19, wherein the second fan element is configured to operate for an initial predetermined length of time that is longer than a periodic operational airflow frequency.

21. The inflatable display of claim 17, wherein at least one illumination module is disposed within the first inflatable compartment.

22. The inflatable display of claim 21, wherein at least one illumination module is disposed within the second inflatable compartment.

23. The inflatable display of claim 22, wherein the illumination modules are operatively connected to one fan element.

24. The inflatable display of claim 23, wherein the fan elements are situated within the inflatable display.

25. The inflatable display of claim 23, wherein the fan elements are secured to the inflatable display.

26. The inflatable display of claim 23, wherein the second inflatable compartment includes an extension portion.

27. The inflatable display of claim 17, further comprising at least one air intake tube associated with said first fan element and said first inflatable compartment.

28. The inflatable display of claim 27, further comprising at least one second air intake tube associated with said second fan element and said second inflatable compartment.

29. The inflatable display of claim 17, further comprising at least one air intake tube associated with said second fan element and said second inflatable compartment.

30. The inflatable display of claim 17, wherein the periodically inflated and deflated second inflatable compartment is controlled by a variable controller.

31. The inflatable display of claim 17, wherein the periodically inflated and deflated second inflatable compartment occurs at a predetermined frequency.

32. A method for inflating a dynamic multiple compartment inflatable display comprising:
   - continuously inflating at least one inflatable compartment and a statically inflated portion of a second inflatable compartment; and
   - periodically inflating and deflating a dynamically inflated portion of said second inflatable compartment.

33. The method of claim 32, wherein the step of periodically inflating and deflating is predetermined.

34. The method of claim 32, wherein the step of periodically inflating and deflating is controlled by a variable controller.

* * * * *

EXHIBIT B

The United States of America

The Director of the United States Patent and Trademark Office

Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.

If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.

If this application was filed on or after June 8, 1995, the term of this patent is twenty years from the U.S. filing date, subject to any statutory extension. If the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121 or 365(c), the term of the patent is twenty years from the date on which the earliest application was filed, subject to any statutory extensions.

Jon W. Dudas

Director of the United States Patent and Trademark Office

US007302769B2

(12) **United States Patent**
Machala

(10) **Patent No.: US 7,302,769 B2**
(45) **Date of Patent: Dec. 4, 2007**

(54) **INTERCHANGEABLE FAN ASSEMBLY FOR COLD-AIR INFLATABLE DISPLAYS**

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(73) Assignee: **Chrisha Creations, Ltd.**RI (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 425 days.

(21) Appl. No.: **10/789,748**

(22) Filed: **Feb. 27, 2004**

(65) **Prior Publication Data**

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(51) **Int. Cl.**
G09F 15/00 (2006.01)

(52) **U.S. Cl.** **40/610**; 446/179

(58) **Field of Classification Search** ..... None
See application file for complete search history.

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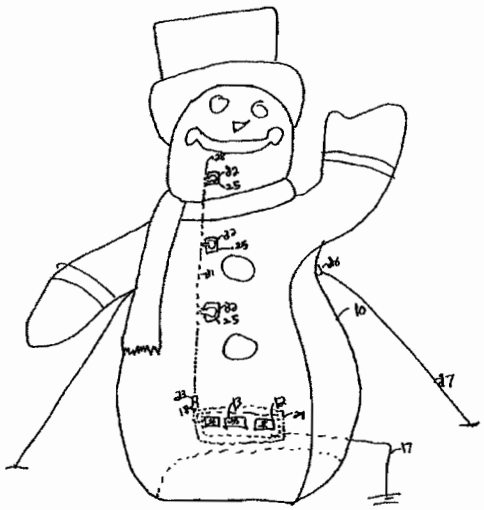
Primary Examiner—Joanne Silbermann
(74) *Attorney, Agent, or Firm*—Morgan & Finnegan, LLP

(57) **ABSTRACT**

An inflatable display that has an interchangeable fan assembly in a position on the inflatable figure that allows optimum airflow into the display. One interchangeable fan assembly can be used for a plurality of inflatable figures by detaching the interchangeable fan assembly from the receiving opening on one figure and attaching it to the same on another figure with a compatible receiving opening.

13 Claims, 5 Drawing Sheets



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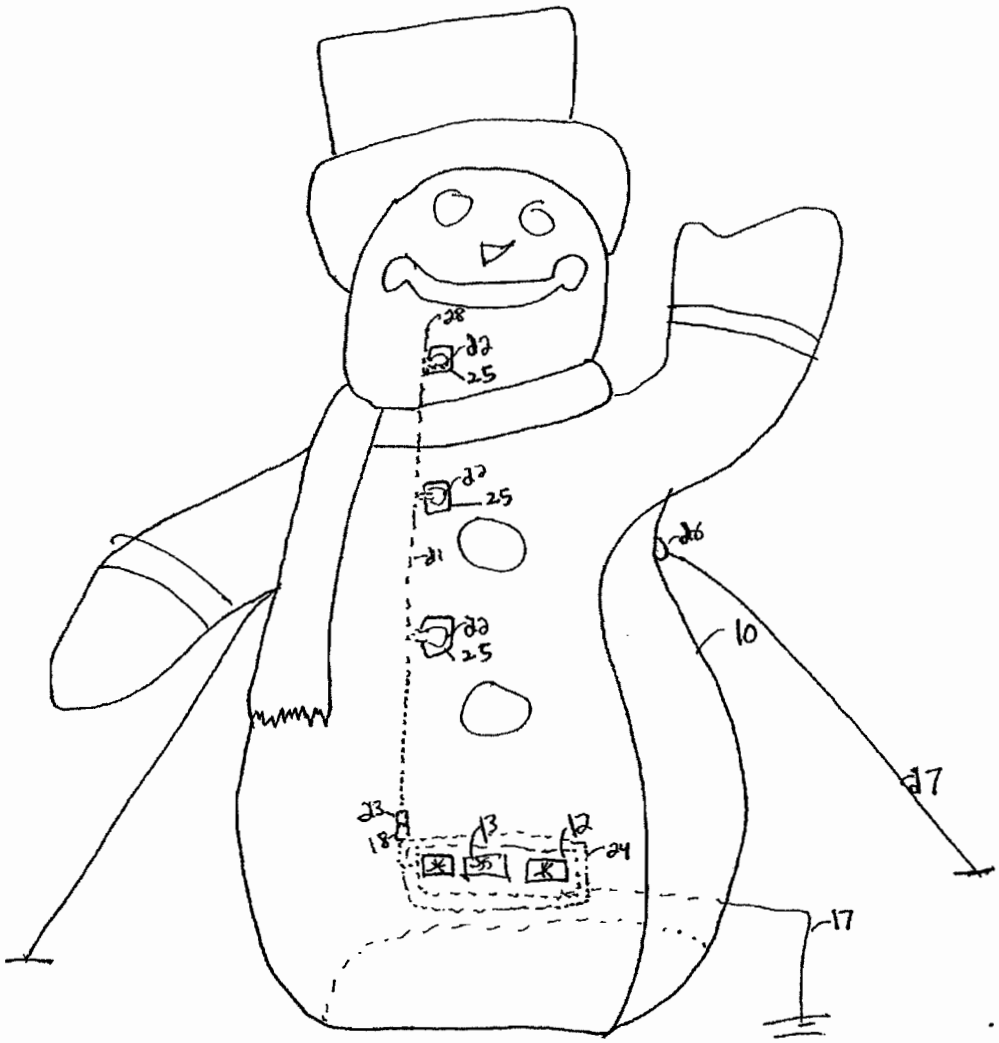


Figure 1

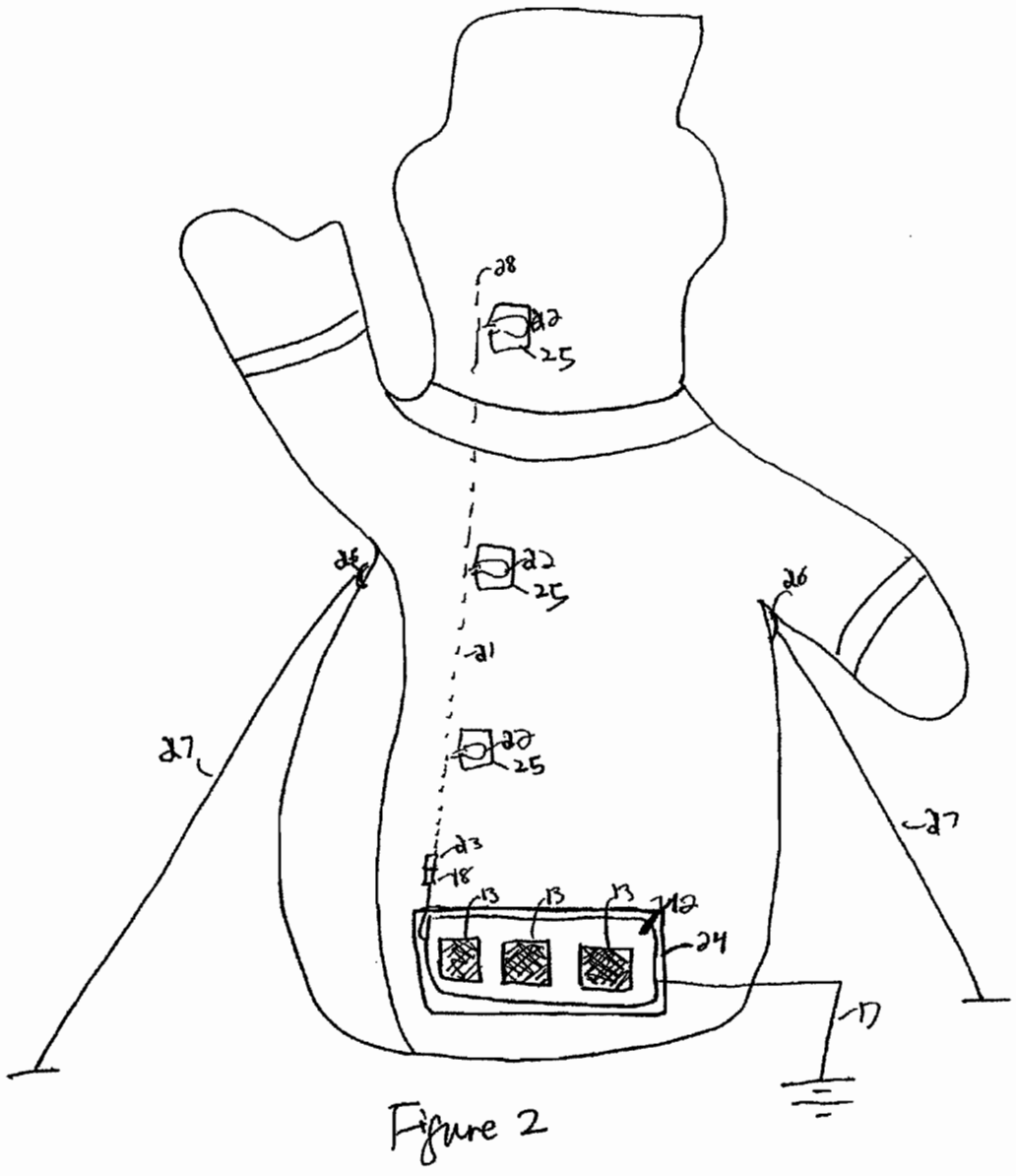


Figure 2

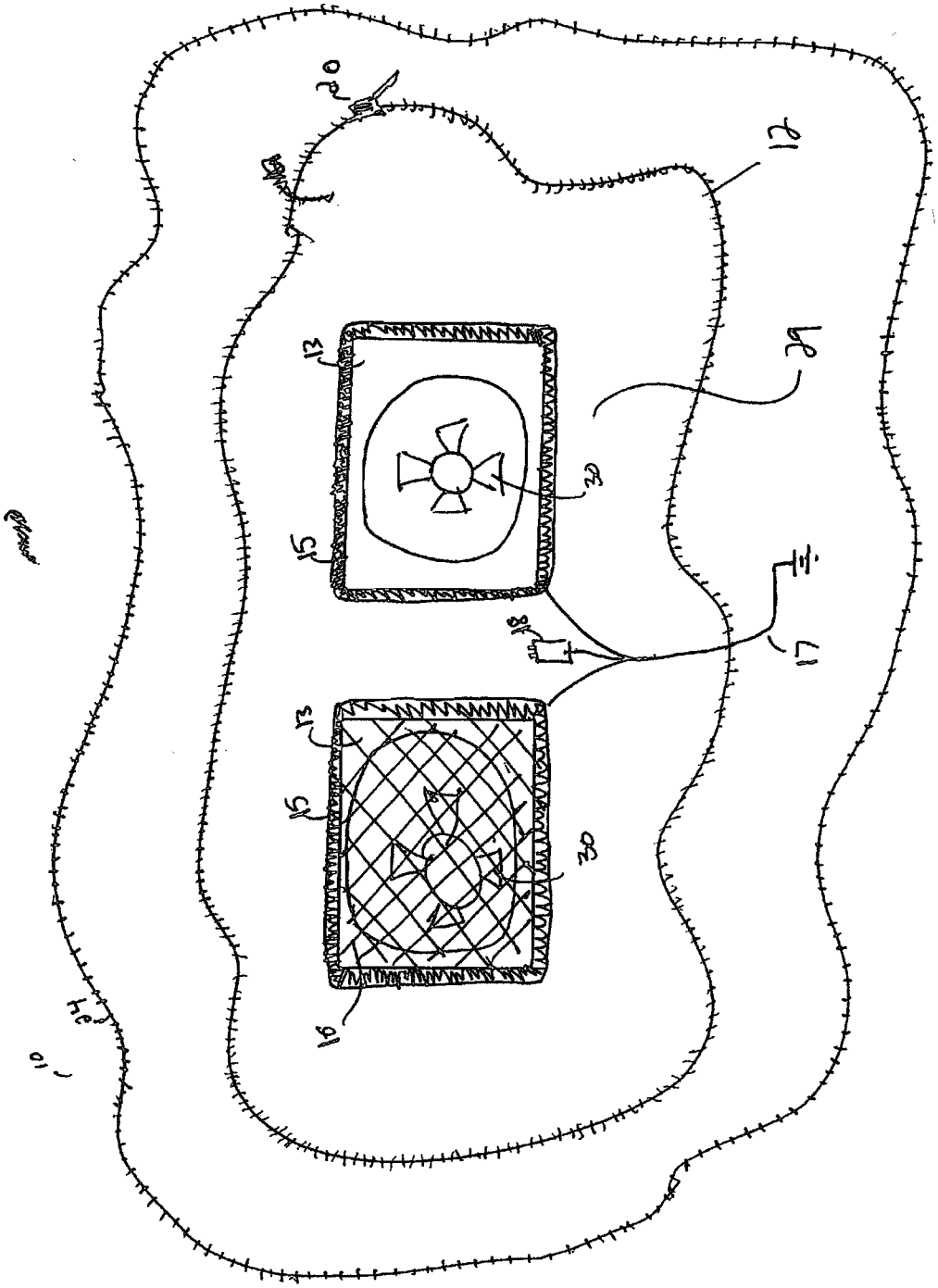
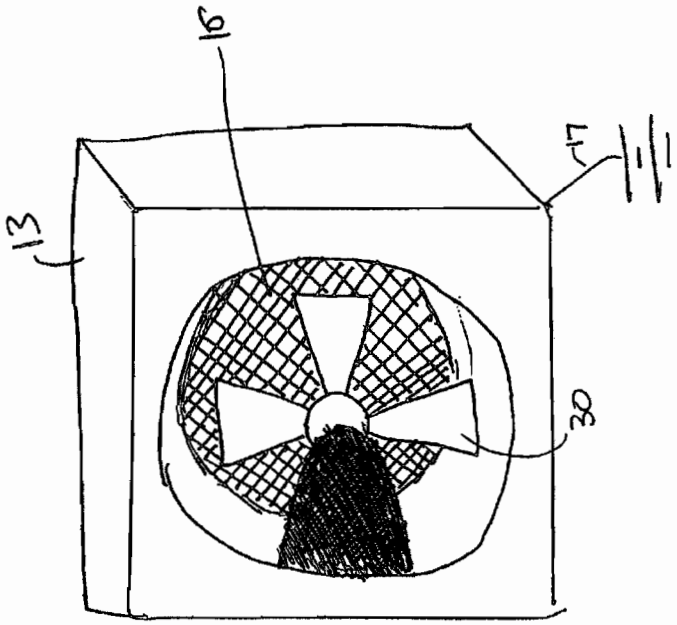


Figure 3



One Fan

Figure 4

INTERCHANGEABLE FAN ASSEMBLY FOR COLD-AIR INFLATABLE DISPLAYS

FIELD OF THE INVENTION

The apparatus and method of the present invention relate to cold-air displays that maintain their inflated state through the use of continuously blowing electric fans.

BACKGROUND OF THE INVENTION

Inflatable displays have become increasingly popular in recent years. These types of displays have a wide range of application, shape and size, including, but not limited to, figures for holiday and seasonal decoration, marketing, advertising, entertainment, and event attraction. The inflatable displays are made from a permeable fabric that allows air to pass through the fabric at approximately the same rate as the air being blown into the inflatable display. The process of continuously blowing air being supplied from the fan occurring at substantially the same rate as air escaping the fabric allows the display to maintain its three-dimensional shape without the use of an internal or external frame or structure. These are known in the industry as "cold-air" inflatable displays.

Because most of these displays require a significant amount of airflow from the fan to maintain their inflated state, the fan assembly has been rather large and heavy and has been positioned at the bottom of the inflatable display adjacent the ground for support. A typical fan utilized in prior cold-air inflatable displays has a motor winding with sleeves and bearings configuration. Prior cold-air inflatable displays house the fan within a base positioned at the bottom of the figure into which the fan circulates blown air. Since the base housing the fan rests adjacent the ground, certain measures must be taken by the operator in order to ensure sufficient airflow into the fan. Specifically, the base housing the fan must be positioned at a height far enough above the ground to allow sufficient air to enter the fan. Permanently affixed legs or removable legs secured to the base have been utilized to raise the base housing the fan at a sufficient level above the ground enabling a proper airflow into the fan. If the fan is disposed too close to the ground, the flow of air into the fan may be limited and the figure may not be inflated in the manner desired. Thus, unacceptable inflation of the figure may result because the fan is positioned too low to the ground, or because the legs of the base sink further into the ground after it has already been positioned, or because unwanted debris accumulate between the fan and the ground.

The fan assemblies in prior inflatable displays also have been configured such that the fan assembly and/or the base which houses the fan are permanently affixed to the fabric of the inflatable figure in a variety of ways. For example, the fabric may be directly attached to the fan housing or base or secured to the fan housing or base via a fastening member. Further, because not all inflatable displays have the same shape on their bottom surfaces, the fan and base housing assemblies are unique for each type of display. Thus, in prior inflatable devices the fan assembly is a permanent component of each display. For example, if a consumer were to purchase a jack-o-lantern inflatable display for the Halloween season, a snowman inflatable display for the holiday season, and an Uncle Sam inflatable display for Independence Day, the consumer would be purchasing three complete packages of each inflatable figure, fan assembly, and other components. As the fan assembly is a significant cost component of inflatable devices, the lack of interchangeability between fan assemblies for different displays significantly increases the cost to purchasers of multiple inflatable devices. There is no present apparatus or method utilizing a fan assembly that is interchangeable with several different inflatable figure displays.

SUMMARY OF THE INVENTION

In the present invention, a cold-air inflatable display maintains its inflated state from one or more lightweight continuously blowing electric fan(s) positioned on the display in such a manner as to permit optimum airflow through the fan and into the display. The fan assembly is advantageously positioned on a lower portion of the display above the surface-touching bottom of the display so that the fan is elevated above the ground avoiding the problem of insufficient airflow into the display. This ensures that the airflow to the fan will not be limited preventing the fan from inflating the display with sufficient air pressure to properly maintain its shape. The positioning of the fan on a lower portion elevated above the ground further eliminates the need for a base housing for supporting the fan and legs for elevating the fan and base housing above the ground.

The invention also includes an interchangeable fan assembly that can be utilized with multiple displays, thus reducing cost to purchasers and increasing their ability to enjoy the benefits of numerous inflatable displays. By affixing the fan assembly to a standard-sized piece of fabric that is detachable from one display and reattachable to another display by joining the male fastening device of the standard-sized piece of fabric with the female fastening device of the other display, a fan assembly can be incorporated and used with any given number of comparable displays. Since the fan assembly is not positioned on the surface-touching bottom of the display, there is no difficulty finding a specified location on the lower portion of each display that allows for a convenient location for the fan assembly ensuring optimum airflow into the display.

It will be appreciated by those skilled in the art that the foregoing brief description and the following detailed description are exemplary and explanatory of this invention, but are not intended to be restrictive thereof or limiting of the advantages which can be achieved by this invention. Thus, the accompanying drawings, referred to herein and constituting a part hereof, illustrate preferred embodiments of this invention, and, together with the detailed description, serve to explain the principles of this invention.

BRIEF DESCRIPTION OF THE DRAWINGS

The features and advantages of the present invention, both as to its structure and operation, will be apparent from the following detailed description, especially when taken in conjunction with the accompanying drawings, wherein:

FIG. **1** is a front perspective view of an inflatable display with an embodiment of the interchangeable fan assembly of the present invention;

FIG. **2** is a back perspective view of an inflatable display with an embodiment of the interchangeable fan assembly of the present invention;

FIG. **3** is an enlarged view of an embodiment of the interchangeable fan assembly of the present invention;

FIG. **4** is an enlarged view of an embodiment of a fan unit of the interchangeable fan assembly; and

FIG. 5 is a block diagram illustrating an embodiment of a fan assembly from one inflatable display being interchanged with alternative inflatable displays configured to receive the fan assembly.

DETAILED DESCRIPTION OF THE INVENTION

The apparatus and method of the present invention will now be discussed with reference to FIGS. **1**, **2**, **3**, **4**, and **5**. Referring to FIGS. **1** and **2**, inflatable display **10** includes interchangeable fan assembly **12**, in this embodiment comprising three electric fans **13**, female fastening device **24** for receiving said interchangeable fan assembly, interior lighting arrangement **21**, and power source **17**. The material of inflatable display **10** is preferably made from a permeable fabric that allows air to escape at approximately the same rate as air being blown into the inflatable display by said interchangeable fan assembly **12**. Inflatable display **10**, shown in this embodiment as a snowman, may be configured in any shape or size, depending on the specific need and purpose of the display. Inflatable display **10** is held in position by a securing mechanism, such as tether **27**, that fastens to either the ground or another structure and is secured to said inflatable display by securing devices, such as securing ring **26** attached to inflatable display **10**.

Interior lighting arrangement **21** includes one or more light bulbs **22** secured to a power cord **28**. Protective covers **25** are secured around each light bulb to protect the permeable fabric of inflatable display **10** from heat produced from each bulb. Interior lighting arrangement **21** is attached to interchangeable fan assembly **12** through electrical connector **23** on the bottom end of power cord **28** that mates with electrical connector **18** of interchangeable fan assembly **12**. When interchangeable fan assembly **12** is switched from one display to another, an operator detaches electrical connector **18** on interchangeable fan assembly **12** from electrical connector **23** on interior lighting arrangement **21**.

Referring now to FIGS. **3** and **4**, interchangeable fan assembly **12** is comprised of one or more electric fans **13** connected to power source **17** and electrical connector **18**. The housing of electric fan **13** is secured to standard-sized fabric **29** by fastening frame **15** sewn into standard-sized fabric **29**. Fastening frame **15** borders the housing of electric fan **13** thereby securing the fan to standard-sized fabric **29** and holding the fan in place.

Electric fan **13** is preferably a lightweight plastic sleeveless bearing fan. The lightweight of the electric fan assembly and the plastic housing enables the fan assembly to be secured to the fabric of the inflatable display at a position elevated above the surface-touching bottom of the display without distorting the shape of the inflatable display and without the need for a base to support and elevate the fan above the ground to achieve sufficient air intake. Electric fan **13** can be easily removed from its housing **15** for cleaning or replacement whenever necessary. Electric fan **13** is covered with safety grill **16** to guard against unwanted debris from entering the display as well as contacting fan blades **30**. Around the edge of standard-sized fabric **29** is male fastening device **20** for attaching interchangeable fan assembly **12** through a receiving opening to female fastening device **24** of inflatable display **10**. Male fastening device **20** for attaching interchangeable fan assembly **12** to female fastening device **24** is illustrated in the preferred embodiment to comprise a zipper system, but other means of attachment such as fasteners, buttons, hook and loop fastening tape, or the like can be used.

Referring now to FIG. **5**, secured to inflatable display **10***a* is interchangeable fan assembly **12**. User detaches interchangeable fan assembly **12** from female fastening device **24***a*, and then detaches electrical connector **18** from electrical connector **23***a*. Interchangeable fan assembly **12** can now be removed for insertion and use with another inflatable display **10***b* (or **10***c*) by attaching electrical connector **18** to electrical connector **23***b* (or **23***c*) and then securing interchangeable fan assembly **12** through a receiving opening to inflatable display **10***b* (or **10***c*) by joining male fastening device **20** to female fastening device **24***b* (or **24***c*). Interchangeable fan assembly **12** is secured to a standard-sized piece of permeable fabric fitted for attachment to either female fastening device **24***b* or **24***c* on inflatable display **10***b* or **10***c*, respectively.

Although illustrative preferred embodiments have been described herein in detail, it should be noted and will be appreciated by those skilled in the art that numerous variations may be made within the scope of this invention without departing from the principle of this invention and without sacrificing its chief advantages. The terms and expressions have been used as terms of description and not terms of limitation. There is no intention to use the terms or expressions to exclude any equivalents of features shown and described or portions thereof and this invention should be defined in accordance with the claims which follow.

The invention claimed is:

1. A cold-air inflatable display comprising:

a permeable fabric forming an inflatable figure with a hollow body;

an interchangeable fan assembly for continuously-blowing air into said hollow body, said fan assembly comprising at least one fan, a housing for said fan secured to a piece of fabric having a male securing device disposed along a border of said standard-sized fabric for receipt by a female securing device disposed along a border of a receiving opening joining said fan assembly to said permeable fabric through said receiving opening positioned on said hollow body above a surface-touching bottom to allow optimum airflow through said fan into said hollow body;

a lighting arrangement extending through an interior portion of said hollow body, comprising a power cord, at least one light fixture, including a light bulb with a protective cover, secured to said power cord and an electrical connector disposed at an end of said power cord mating with a second electrical connector extending from said fan assembly; and

a second power cord extending from said fan for connection to a power source;

wherein said interchangeable fan assembly is a lightweight assembly elevated above said surface-touching bottom of said hollow body without a base support and without distorting said figure when said cold-air inflatable display is inflated.

2. The cold-air inflatable display of claim **1**, further comprising three fans.

3. The cold-air inflatable display of claim **1**, wherein said receiving opening has the same dimensions as the corresponding dimensions of said fan assembly.

4. The cold-air inflatable display of claim **1**, further comprising a zipper system having a male securing zipper and a female securing zipper for joining said fan assembly to said permeable fabric.

5. The cold-air inflatable display of claim **1**, further comprising a fastening frame for securing said housing of said fan to said piece of fabric.

6. A cold-air inflatable display, comprising:

a permeable fabric forming an inflatable figure with a hollow body;

an interchangeable fan assembly for continuously-blowing air into said hollow body, said fan assembly comprising at least one fan, a housing for said fan, a securing device disposed along a border of said housing for joining said fan assembly to said permeable fabric through a receiving opening positioned on said hollow body above a surface-touching bottom of said hollow body; and

a lighting arrangement extending through an interior portion of said hollow body, comprising a power cord connected to said fan and at least one lighting element secured to said power cord;

wherein said interchangeable fan assembly is a lightweight assembly elevated above said surface-touching bottom of said hollow body without a base support and without distorting said figure when said cold-air inflatable display is inflated.

7. The cold-air inflatable display of claim 6, further comprising an electrical connector disposed at an end of said power cord mating with a second electrical connector extending from said fan assembly.

8. The cold-air inflatable display of claim 6, further comprising three fans.

9. The cold-air inflatable display of claim 6, wherein said receiving opening has the same dimensions as the corresponding dimensions of said fan assembly.

10. The cold-air inflatable display of claim 6, further comprising a zipper system having a male securing zipper and female securing zipper for joining said fan assembly to said permeable fabric.

11. The cold-air inflatable display of claim 6, further comprising a fastening frame for securing said housing of said fan to said fabric.

12. A method for interchanging a fan assembly for cold-air inflatable displays, comprising:

unfastening a border of an interchangeable fan assembly from a permeable fabric along a receiving opening positioned on a first cold-air inflatable display above a surface-touching bottom of said display, said interchangeable fan assembly is a lightweight assembly elevated above said surface-touching bottom without a base support and without distorting said first cold-air inflatable display when said first cold-air inflatable display is inflated;

removing an electrical connector extending from a fan of said interchangeable fan assembly from a second electrical connector of a power cord of a lighting arrangement of said first cold-air inflatable display;

connecting said electrical connector to a second power cord of a second lighting arrangement of a second cold-air inflatable display; and

fastening said border of said interchangeable fan assembly to a second permeable fabric along a second receiving opening positioned on said second cold-air inflatable display above a surface-touching bottom of said display, said interchangeable fan assembly is a lightweight assembly elevated above said surface-touching bottom without a base support and without distorting said second cold-air inflatable display when said second cold-air inflatable display is inflated.

13. The method of claim 12, wherein said unfastening step comprises unzipping a male securing zipper from a female securing zipper along said receiving opening and said fastening step comprises zipping said male securing zipper together with a second female securing zipper along a second receiving opening.

* * * * *

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

CHRISHA CREATIONS, LTD,

Plaintiff(s),

-against-

DOLGENCORP, INC., DOLLAR GENERAL CORPORATION and FAMILY DOLLAR STORES, INC. ,

Defendant(s).

COMPLAINT

RIVKIN RADLER LLP

Attorneys for

Plaintiff, Chrisha Creations, Ltd
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UNIONDALE, NEW YORK 11556-0926
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FILE# 2563-21 /

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Attorney(s) for

Service of a copy of the within *is hereby admitted.*

Dated:

.....

Attorney(s) for

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Check Applicable Box

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☐ NOTICE OF SETTLEMENT *that an Order of which the within is a true copy will be presented for settlement to the Hon. one of the judges of the within named Court, at*

on *20* *, at* *M.*

Dated:

RIVKIN RADLER LLP

Attorneys for

926 RECKSON PLAZA
UNIONDALE, NEW YORK 11556-0926

To:

FILE# _____ /

Attorney(s) for